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Results of the fourth sampling (October 9<sup>th</sup>) of the 2007, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening process of the first-stubble crop at 2-wk increments, and compare the results for the same harvest dates over a 5-yr period (2003 – 2007); consequently, a glyphosate-containing ripener is not applied. Variety samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The first-stubble study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety HoCP 00-950.

The Ardoyne Farm has received timely rains throughout the growing season. Since the last sampling, the farm received nearly 4 in. of rain with the majority of it occurring between October 4<sup>th</sup> and 8<sup>th</sup> (2.85 in. on October 8<sup>th</sup>). With the exception of L 99-233, the rains and wind associated with these events did not cause significant lodging.

During the 14-day interval, the stubble crop grew an average of 5 in. and increased in stalk weight by 0.2 lbs/stalk. Growth of 10 in. or more was obtained with L 99-233, the only lodged variety. Stalks in 2007 for the major varieties are at best average in height and weight based on the 5-yr average (2003 – 2007). Density measurements began in 2005 for the first-stubble study. Stalk densities are higher in 2007 for all varieties. The newly released variety HoCP 00-950 continues to have some of the shortest stalks of the varieties in this test, but its stalks are only lighter than those of HoCP 85-845, Ho 95-988, L 97-128, and L 99-226 (heaviest).

Brix, sucrose, and purities continue to be higher in 2007 than in 2006 at this sampling date, but differences between the two years are diminishing and would be considered average for this sampling date. Like stalk weight and height, theoretically recoverable sugar (TRS) levels are average for the core varieties for this time of year with an average increase in TRS of nearly 27 lbs. since the last sampling. Of the varieties with major plantings for harvest in 2007, L 97-128 has the highest early TRS level producing 247 lbs/TC, which is higher than both LCP 85-384 (29 lbs/TC) and HoCP 96-540 (34 lbs/TC). TRS levels for HoCP 85-845, HoCP 91-555, and L 99-226 are approaching those of L 97-128, however. HoCP 00-950 continues to have the highest



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TRS/TC level at nearly 280 lbs, which is higher than L 97-128 (33 lbs/TC) and HoCP 96-540 (67 lbs/TC).

The fifth sampling for the maturity test is scheduled for October 22<sup>nd</sup>.

**Reminder.** If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2007, please contact Mrs. Sandy Roberts by email ([sroberts@srcc.ars.usda.gov](mailto:sroberts@srcc.ars.usda.gov)). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: [www.ars.usda.gov/msa/srcc/sru](http://www.ars.usda.gov/msa/srcc/sru) .

*Maturity reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.*

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, October 09, 2007<sup>1</sup>.

Variety	Year	Stalk <sup>2</sup>				Normal juice <sup>3</sup>			Sugar yield TRS	Previous sample date <sup>4</sup> TRS	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.			
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
LCP 85-384	2007	1.7	88	0.69	1.36	15.03	12.06	80.19	218.2	188.8	29.4
	2006	1.9	95	0.80	1.09	15.27	12.27	80.26	222.2	189.5	32.7
	2005	1.5	74	0.77	1.04	15.56	12.81	82.36	220.8	191.6	29.2
	2004	1.8	94	---	---	15.85	12.95	81.67	236.4	196.3	40.1
	2003	1.7	85	---	---	15.87	12.81	80.71	232.6	207.3	25.3
HoCP 85-845	2007	2.0	87	0.82	1.22	15.72	13.09	83.31	241.3	215.8	25.5
	2006	2.2	90	0.87	1.10	15.89	13.05	82.12	239.0	215.9	23.1
	2005	1.9	81	0.86	1.03	15.49	12.75	82.30	226.5	210.5	16.0
	2004	1.9	90	---	---	15.89	13.17	82.84	242.0	216.4	25.6
	2003	1.8	78	---	---	15.67	12.75	81.35	232.4	220.6	11.8
HoCP 91-555	2007	1.9	91	0.78	1.17	16.62	13.45	80.88	242.2	206.1	36.1
	2006	1.6	89	0.72	1.17	15.76	11.94	75.75	207.7	175.5	32.2
	2005	1.5	87	0.69	1.23	16.76	13.63	81.39	240.0	200.3	39.7
	2004	1.8	92	---	---	16.58	13.45	81.07	242.4	192.5	49.9
	2003	1.6	81	---	---	16.96	13.63	80.40	244.7	221.9	22.8
Ho 95-988	2007	2.1	94	0.85	1.11	15.87	12.70	80.02	229.6	189.8	39.8
	2006	2.4	99	0.90	1.06	15.01	11.48	76.47	202.9	173.2	29.7
	2005	2.0	84	0.86	1.05	15.47	12.39	80.10	214.3	189.9	24.4
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
HoCP 96-540	2007	2.0	92	0.77	1.25	14.90	11.78	78.57	213.1	189.4	23.7
	2006	2.2	98	0.85	1.11	14.76	11.44	77.50	205.6	173.5	32.1
	2005	1.9	83	0.83	1.08	14.92	12.39	83.06	211.0	192.1	18.9
	2004	2.2	97	---	---	15.87	12.75	80.29	233.2	203.5	29.7
	2003	2.0	89	---	---	15.58	12.39	79.49	225.5	205.0	20.5
L 97-128	2007	2.1	101	0.79	1.24	16.56	13.53	81.71	247.1	222.0	25.1
	2006	2.3	106	0.87	1.02	16.03	12.89	80.42	233.7	214.7	19.0
	2005	2.0	91	0.85	1.04	16.22	14.32	88.27	236.6	216.7	19.9
	2004	2.3	105	---	---	17.31	14.51	83.81	270.8	242.4	28.4
	2003	1.8	92	---	---	17.29	14.32	82.84	265.8	242.1	23.7
L 99-226	2007	2.4	96	0.87	1.18	15.98	12.94	80.92	237.5	209.3	28.2
	2006	2.5	99	0.90	1.08	15.78	12.61	79.86	230.2	199.7	30.5
	2005	2.3	92	0.91	1.01	15.21	13.03	85.68	213.4	196.4	17.0
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
L 99-233	2007	1.7	106	0.72	1.15	15.18	11.81	77.76	208.4	186.9	21.5
	2006	1.8	101	0.77	1.05	15.10	11.67	77.24	205.2	168.2	37.0
	2005	1.6	91	0.73	1.14	16.18	13.03	80.54	237.6	217.2	20.4
	2004	1.8	101	---	---	16.09	13.19	81.92	241.2	198.9	42.3
	(Con'td.)	2003	---	---	---	---	---	---	---	---	---

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, October 09, 2007<sup>1</sup>.

Variety	Year	Stalk <sup>2</sup>				Normal juice <sup>3</sup>			Sugar yield TRS (lb.)	Previous sample date <sup>4</sup> TRS (lb.)	TRS change from previous sample (lb.)
		Wt. (lb.)	Lh. (in.)	Dia. (in.)	Density (g/cm3)	Bx. (%)	Su. (%)	Pu. (%)			
HoCP 00-950	2007	1.9	87	0.82	1.19	17.69	14.84	83.90	279.8	253.2	26.6
	2006	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
Averages <sup>5</sup>	2007	1.9	94	0.76	1.23	15.67	12.62	80.40	228.4	201.5	26.9
	2006	2.0	93	0.81	1.12	15.42	12.18	78.91	218.6	188.6	30.0
	2005	1.8	85	0.81	1.08	15.71	12.98	82.61	225.9	202.7	23.3
	2004	2.0	97	---	---	16.15	13.21	81.76	241.8	205.8	35.9
	2003	1.8	84	---	---	16.08	12.97	80.65	236.0	215.3	20.7

<sup>1</sup> Data for each parameter represents the average of four replications of 15 stalks each.

<sup>2</sup> Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

<sup>3</sup> Brix factor = .8854; Sucrose factor = .8105.

<sup>4</sup> Previous sample date was September 25, 2007.

<sup>5</sup> Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384, HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and L 99-233).